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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,423

01/05/2006

Shintaro Shinkawa

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EXAMINER

D'ANIELLO, NICHOLAS P

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

04/01/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
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Office Action Summary	Application No. 10/563,423	Applicant(s) SHINKAWA ET AL.	
	Examiner Nicholas P. D'Aniello	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 6-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/5/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-5 and 9 in the reply filed on March 10th, 2008 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Krause et al. (USP 5,147,082).

Krause et al. teach several variations of an ultrasonic welding tool with a sonotrode (ultrasonic vibrator, elements 1, 21, 30, 40 and 50 in figures 1-4) and a working surface (ultrasonic horn, elements 6, 9, 36 and 46) (abstract) which has a rough (matte) surface (the importance of this roughness is discussed in column 1 from lines 11-43). The sonotrode is also provided with an adjusting screw 33 which allows it to be (moved and) fixed in position (column 2, lines 55-58).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (USP 5,147,082) as applied to claim 1 above, and further in view of Paradella et al. (USP 6,248,276).

Krause et al. teach the ultrasonic welding tool as applied to claim 1 above. Claim 2 differs from the reference in calling for the matte finish to have a surface roughness between 10 and 25 microns inclusively. However, it would have been obvious in the art to provide a matte finish with such a finish because Paradella et al. teach a fastener and the desirability to have a contact surface with a roughness between 10 and 200 microns in order to increase the peel strength of the surface (column 2, lines 18-28). A high peel strength will ensure that the ultrasonic horn's contact surface will remain in contact with the object to be welded until the bonding is complete.

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (USP 5,147,082) as applied to claim 1 above, and further in view of Kato (USP 4,583,144).

Krause et al. teach the ultrasonic welding tool (information recording medium manufacturing apparatus) as applied to claim 1 above. Claims 3-5 differ from the reference in calling for the ultrasonic horn to be placed in contact with the convex surface of an object inserted through a through hole formed in another object, where the ultrasonic vibrator generates ultrasound to melt and crush the first object into a plate like

shape forming a fixed head portion which fix the objects together. However it would have been obvious in the art to use the ultrasonic welding apparatus of Krause et al. to perform such an operation (which would require moving the horn toward the object) because Kato teaches a method of forming a magnetic recording disc cartridge and the desirability to connect objects by placing connecting pins (18) through through-holes (19) where the connecting pins are subjected to ultrasonic waves to be made molten and welded to the stepped portions of the through-holes (column 7, lines 26-58; Figure 4(G)). In Figure 4(G) it can be seen that the pin has been crushed to form a fixing head. This method minimizes the thermal influence on the boss 14a and is therefore prevented from being deformed (column 7, lines 58-65).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (USP 5,147,082) and Paradella et al. (USP 6,248,276) as applied to claim 2 above, and further in view of Kato (USP 4,583,144).

Krause et al. and Paradella et al. teach the ultrasonic welding tool as applied to claim 2 above. Claim 9 differs from the reference in calling for the ultrasonic horn to be placed in contact with the convex surface of an object inserted through a through hole formed in another object, where the ultrasonic vibrator generates ultrasound to melt and crush the first object into a plate like shape forming a fixed head portion which fix the objects together. However it would have been obvious in the art to use the modified ultrasonic welding apparatus of Krause et al. to perform such an operation (which would require moving the horn toward the object) because Kato teaches a method of forming a

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magnetic recording disc cartridge and the desirability to connect objects by placing connecting pins (18) through through-holes (19) where the connecting pins are subjected to ultrasonic waves to be made molten and welded to the stepped portions of the through-holes (column 7, lines 26-58; Figure 4(G)). In Figure 4(G) it can be seen that the pin has been crushed to form a fixing head. This method minimizes the thermal influence on the boss 14a and is therefore prevented from being deformed (column 7, lines 58-65).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas P. D'Aniello whose telephone number is (571)270-3635. The examiner can normally be reached on Monday through Thursday from 8am to 5pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NPD
3/26/08

/Jerry A Lorengo/
Supervisory Patent Examiner, Art
Unit 1793
